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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No. : 10/804,721
Applicant : John A. McClure, et al.
Filed : 03/19/2004
Title : SATELLITE BASED VEHICLE GUIDANCE
CONTROL IN STRAIGHT AND CONTOUR MODES
TC/A.U. : 3661
Examiner : Brian J. Broadhead
Docket No. : 4009

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

RULE 1.132 DECLARATION

John A. McClure, upon his oath being duly sworn, states:

1. I am a coinventor on the application noted above.
2. I am also a coinventor on U.S. Patent No. 6,539,303.
3. I am submitting this declaration to remove U.S. 6,539,303 as a reference in my application noted above.
4. I am the inventor of the following subject matter disclosed in U.S. 6,539,303, which was cited against my pending application noted above: (References are to the specification of U.S. 6,539,303)

Receiving global positioning system (GPS) data including position and velocity information corresponding to at least one of a position, velocity and course of said vehicle (col. 4, lines 15-20).

Computing an actual track and a crosstrack error from said desired swath based on said compensated heading and said position, wherein said position is compared with a selected desired position of said plurality of desired positions and said

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compensated heading is compared with a selected desired heading of said plurality of desired headings, calculating a desired radius of curvature to arrive at said desired track with a desired heading, and generating a steering command based on said radius of curvature to a steering mechanism, said steering mechanism configured to direct said vehicle (col. 6).

Receiving differential corrections for said GPS data and correcting said GPS data based on said differential corrections (col. 4, line 47).

Said GPS data includes at least one of carrier phase RTK corrections, satellite based differential corrections, and ground-based differential corrections (col.4, lines 50-54).

Utilizing a DGPS system with dual antennae optimized to generate additional accuracy in said GPS data, further including heading data and generating said compensated heading utilizing said GPS data and said heading data and generating a differential corrector with a reference DGPS receiver and transmitting said differential corrector to the vehicle (col. 4, lines 50-54).

Said calculating includes generating radius of curvature data, based on best fit algorithms from said GPS data including a current position, a heading and a speed to a desired aim point and desired heading, said aim point can be at least one of: on a straight line with parallel guidance; an interpolated point from a point of closest approach to a previously logged, stored or generated curved track; an edge of previously traveled swaths; a data file of track points based on best fit algorithms (Fig. 7).

Said generating a steering command includes generating a command to drive a hydraulic or electrically driven steering system of said vehicle based on a difference between said desired curvature to reach an aim point, a current speed of said vehicle and a rate of turn of said vehicle (col. 6, lines 35-40).

Offsetting said desired line direction by proportionally adjusting a parallel guidance line from a fixed aim point behind the vehicle to a point including a small increment offset from a current position (Figs. 4 and 5).

Said determination includes a database lookup (col. 6, lines 11-20).

Using velocity information from GPS to control guidance.

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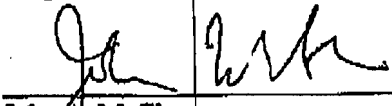
5. I am the inventor of the subject matter identified in paragraph 4 above as disclosed in other parts of U.S. 6,539,303, including the drawings, claims and parts of the detailed description in addition to those passages specifically referenced in paragraph 4 above.

6. I am the inventor of all of the subject matter of U.S. 6,539,303 cited and applied in the Office action mailed April 7, 2006 in the present application.

The undersigned, being hereby warned that willful false statements and the like are punishable by fine or imprisonment, or both under 18 U.S.C. § 1001 and may jeopardize the validity of the application or any patent issuing thereon, states that all statements made herein of his own knowledge are true and that all statements made herein on information and belief are believed to be true.

4/23/07
Date

Respectfully Submitted,



John A. McClure